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# How Banking Time intervention works in Turkish preschool classrooms for enhancing student–teacher relationships

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## Abstract

In this study, it was aimed to evaluate the effects of a relationship-based intervention called Banking Time (BT) on child–teacher relationships in preschool period. Five- and six-year-old children ( $N=93$ ) attending full-time private preschool and their teachers ( $N=8$ ) were included in the participant group. It was pretest–intervention–posttest design and data were collected using Semi-Structured Play Interview and Student–Teacher Relationship Scale to assess whether or not BT intervention would be effective on child–teacher relationship perceptions. It was hypothesized that both children and teachers in the experimental group would perceive more positive relationships than the control group. The analysis showed that BT intervention differentiated relationship perceptions of children between the experimental and the control group. However, BT intervention did not improve the relationship perception of teachers with children in the experimental group as compared to the control group.

**Keywords:** Child–teacher relationships, Banking Time intervention, Preschool period, Social and emotional development

## Introduction

Childhood, specifically the early years, has been considered as the unique period in which the quality of significant relationships is very critical to understand the developing child. According to attachment theory, sensitivity and responsiveness of primary caregiver, usually the mother, are significant components to meet the needs of the baby (Bowlby 1973; Ainsworth 1969, 1989). These two critical characteristics of the primary caregiver can promote a secure-based relationship between baby and mother. The quality of these kind relationships would have powerful effect in determining the quality of other relationships formed throughout whole life (Bowlby 1973; Ainsworth 1969, 1989; Ainsworth and Bowlby 1991; Sroufe 2000). Although attachment relationships have some distinguished characteristics, each has been shaped by earlier relationship experiences. Sensitive and responsive nurturing style of the primary caregiver would guarantee the operation of secure-based attachment relationships that would also be important to reflect relationship perceptions into other relationships formed throughout life (Akister 1998; Goldberg 2000).

To understand patterns of these kinds of relationships, we need to focus on factors related to relationships rather than just focusing on individual problems (Hinde 1991; Stevenson-Hinde 1990; see Hortaçsu 2003). Therefore, it is needed to evaluate different components of relationships (Akister 1998; Goldberg 2000; Hinde 1991; Stevenson-Hinde 1990) and to realize processes and context in which every relationship has been formed (Ford and Lerner 1992; Kagitcibasi 2000; Miller et al. 2002; Sameroff and McDonough 1994). In other words, the nature of those relationships should be recognized to reveal specific patterns of them rather than focusing on a specific problem (Miller et al. 2002).

Mutual relationships, as usual, begin in family systems. Since young children can form more than one close relationship, they can also have secure relationships with other adults. From the beginning of early years, teachers are usually seen as the first ones who give such critical support for children among other adults. While children need to have close relationships with their teachers, teachers may also have positive attributions regarding emotional ties and relationships they form with children in their classrooms (Honig 1998; Pianta and Hamre 2001a). Teachers have quite good opportunities to interact with children during instruction and make critical contributions to shape their life-long developmental process (Anderson et al. 2004). They may help children to improve their competencies by means of many opportunities based on relationship context (Pianta 1998; Pianta and Hamre 2001a). For example; responding to child's signals sensitively, giving appropriate feedbacks on time, encouraging his/her problem skills against frustrations may help to enhance child-teacher relationships and to enrich learning opportunities of children as well (Pianta and Hamre 2001a; Sabol and Pianta 2012).

There are studies indicating that supportive child-teacher relationships may serve a protective function from the beginning of early years of life just like in positive relationships children experienced with their parents (Pianta 1998; Anderson et al. 2004; Sabol and Pianta 2012). Therefore, the preschool years should be considered as a critical period in which teachers can form positive relationships with children as well as a time to establish their teaching roles and styles (Hamilton and Howes 1992; Pianta 1998). Healthy early relationships can determine the quality of the relationships established with teachers in the future and have contributions for the acquisition of complex social skills of children and also academical success (Howes et al. 1988, 1994, 2003; Pianta and Nimetz 1991; Pianta 1998; Kesner 2000).

As positive child-teacher relationships have powerful impact on social and emotional development of children, there is a strong need to improve those relationships specifically from preschool period which is usually the first time children come together with adults different than their primary caregivers (Pianta 1998; Sabol and Pianta 2012). For this reason, teachers can be seen as the reference point to form positive relationships and to start a process for stronger communication (Pianta 1998; DeJames 2001). Therefore, the potential supportive relationships with children can possibly be enriched using a relationship-based intervention, so that children could be more competent in terms of social, emotional, and academical aspects (Weissberg et al. 2003; Pianta 1998). Although relationship-based interventions have been mainly used for supporting family relationships and dynamics, for the last 25 years, there are efforts to enhance child-teacher relationships and classroom interactions in general. However, there is an increasing need

to do research about this issue to reflect the results coming from different contexts into practice (Howes et al. 2004; Kim and Mahoney 2005; Pianta 1998).

The main aim of this study was to improve child–teacher relationships in preschool period using a relationship-based intervention program called as “Banking Time” which is identified as the leading intervention program in this field to enhance child–teacher relationships (Pianta 1997; Pianta and Hamre 2001a, b, c). It is an enrichment program of relationships between teachers and children via face to face sessions initiated by teachers. In their study of Driscoll and Pianta (2010) reported that teachers participated in Banking Time intervention groups had reported more positive perceptions about children in their classrooms. In the current study, the effectiveness of Banking Time intervention was examined with a group of Turkish preschoolers and their teachers. There were two main questions in this study; the first one was to consider whether there would be significant difference between the experimental (intervention) and the control group (no intervention) in terms of teacher’s perceptions about the relationships formed with their students. The second question was related to student’s perceptions about the relationships formed with their teachers that if there would be a significant difference between experimental and control groups. In this study, it was hypothesized that the intervention would improve relationship perceptions of children and teachers in the experimental group. Additionally, we expected to find significant differences between boys and girls in their relationships with their teachers. Teacher behavior towards young children has been found to vary with gender of children. (Kesner 2000; Honig 1998; Murray and Murray 2004; see Hagekull and Hammarberg 2004). Thus, possible gender differences were also assessed in this study.

## Method

### Participants

Five- (46.9% girls, 53.1% boys) and 6 (43.2% girls, 56.8% boys)-year-old children attending a full-time private preschool in one of the biggest cities situated in the west of part of Turkey, and their teachers participated in this study. Children had no developmental delays or dysfunctions which was decided based on either having official documentation for special needs or teachers’ own observations and reports. Teachers were all females and graduated from vocational high school specialized in child development and education. They were working in that preschool for at least a year and teaching the same group of children for at least 3 months.

There were four teachers and 57 preschool children for the experimental group and 4 teachers and 50 children for the control group. However, three students in the experimental group and eleven students in the control group had to be excluded from the dataset because of attendance problems of those students. At the final phase, analysis was conducted based on 4 teachers and 54 children in the experimental group and 4 teachers and 39 children in the control group. In that school, there were two sections for 5- and 6-year-old children named as A, B, C, and D. Groups A and B were included in the experimental group (4 teachers and 54 children) and groups C and D were recruited for the control group (4 teachers and 39 children). In the experimental group, there were 22 girls and 32 boys; 20 girls and 19 boys in the control group.

The reason why this preschool participated in the present study was that there were many classes available in different ages and class sizes were relatively small. The curriculum of the school was combined with active learning, multiple intelligences and project approach. When the principal was first interviewed, it was clear to understand that she was highly motivated to be included in such an intervention program for enhancing child–teacher relationships. Teachers of that school also showed a willingness to participate in this study. Their enthusiasm convinced the researcher that these teachers would be able to comply with carrying out this intervention program. To prevent control group teachers from learning techniques taught to experimental group teachers and/or to reduce possible biases of such an implementation in that school, teachers were randomly recruited into either experimental or control groups after pretest period was completed. Teachers of group A and B were included in Banking Time intervention, groups C and D were recruited in control group. Teachers in the experimental group agreed on a consent that they would not share and/or talk about their experiences with this implementation. Both groups of teachers were also informed that the control group teachers were also going to be trained in the intervention procedures after the initial data collection period ended.

### **Instruments**

In this study, “Students, Teachers and Relationship Support (STARS)” (Pianta and Hamre 2001a, b, c) manual was used as the main instrument. The “Banking Time” is included in this manual together with other assessment tools and monitoring devices to evaluate the effectiveness of the intervention. Banking Time intervention, assessment tools and monitoring devices are described as below.

### ***Banking Time (BT) (Pianta ve Hamre 2001b)***

In this intervention, the critical point is to save shared positive experiences in a relationship between the student and the teacher. By this way, both the student and the teacher could use their saved resources to solve potential problems and/or to handle stressful situations easily. This kind of effective interaction style would make their relationship stronger through time. Banking Time is assumed to be used effectively with a wide range of age group, starting from the preschool period to the end of primary grades. In this method, the student and the teacher spend specific time together individually at least once a week for 5–15 min. This period is called “session” and arranged differently than any other occasions in which both parties come together for instruction or group activities during daily schedule. Before the sessions start, teacher plans date, time and place of the sessions with each of children in the class. During the sessions, the student is allowed to choose any activity she/he wants to do, while the teacher is using some specific techniques to better understand and interpret the process. During Banking Time sessions, the teacher makes observations, narrates the student’s play either by imitating the play or reflecting speech of the student, labels emotions of the student as well as her/his own emotions, and improves themes to support the power of relationship based on the needs of the student. Thus, we aimed to increase positive experiences of child and teacher through personal time spent together. Hopefully, this can prevent potential problems and help them solving problems more effectively.

### ***Student-Teacher Relationship Scale (STRS) (Pianta 2001)***

This is a self-report Likert-type instrument including 28 items. It is labeled as a valid and reliable measurement tool for teachers to specify his/her perceptions about a specific relationship with a particular child in his/her class. It can be used for preschool children through third grade. After a series of validation studies (Pianta 1998, 2001), the scale has taken its final form based on three factors and those have been identified as subscales which are conflict, closeness, and dependency. In addition to these factors, a total score is calculated including all of those dimensions to represent how the teacher perceives that relationship in general. Conflict subscale identifies the degree of conflict that the teacher perceives with a particular child in their relationship. The closeness subscale specifies to what extent teacher perceives closeness about that particular child and dependency subscale describes the degree of dependency that the teacher identifies in the relationship. Finally, total score shows the degree of how teacher perceives the relationship as positively with that particular child.

In the present study, to test both the validity and the reliability scores of the STRS in Turkish culture, data were collected from different sample groups other than the original data collected. Considering construct validity, data obtained from Turkish preschool teachers ( $N=531$ ) showed that there was a concordance with the original validation studies. Original test-retest reliability coefficients of subscales were demonstrated as 0.92 for conflict, 0.88 for closeness and 0.76 for dependency and 0.89 for the total score. For testing reliability, eighty five preschool teachers were asked to complete STRS, Internal reliability coefficients indicated 0.92 for conflict, 0.86 for closeness, and 0.64 for dependency subscales and 0.89 for the total score. In the present study, test-retest reliability coefficients were also calculated with the same group of preschool teachers ( $N=85$ ) with 2 weeks interval. Test-retest reliability coefficients were found 0.90 for conflict subscale, 0.82 for closeness subscale, and 0.55 for dependency subscale, and 0.87 for total score. Internal reliability Cronbach alphas were found as 0.84 for conflict subscale, 0.80 for closeness subscale, 0.72 for dependency subscale, and 0.86 for the total score.

### ***Semi-Structured Play Interview (SPI) (Pianta and Hamre 2001c)***

This is a semi-structured interview in which a small size classroom illustration and various dolls representing the teacher and peer figures are used to create classroom model. The interview aims to understand how the child perceives the relationship with his/her teacher via asking specific questions like "What happens next if two children are fighting in the class?" During the interviews, children are also asked whether or not they could evaluate teacher's view using various probes based on the answers of the children. However, in the present study, classroom illustration, teacher and student dolls were not used because those tools distracted young children's attention during pilot interviews which was conducted with another group of children different from the original sample. Data obtained from interviews were transcribed and a scoring system ranging from one to three points was developed based on answers of children. According to this scoring system, the child gets one point if the answer reflects the negative relationship perception with the teacher, two points reflecting neutral answers or answers that do not involve emotional intensity, and three points if the child perceives and expresses a close

relationship. The higher the score student gets the more positively perceives the relationship. The scoring system was developed by the researcher (developmental psychologist), one clinical psychologist and also another developmental psychologist. Inter-rater reliability was calculated as 85% based on 30% of total protocols.

***BT activity schedule (Pianta ve Hamre 2001b)***

This is a form including some details about the interview such as date, time, place, type of activity, etc. It is completed by the teacher for every BT session teacher conducted with a particular child. This is one of the main resources for monitoring the whole process of the intervention.

***BT feedback form (Pianta and Hamre 2001b)***

This is another feedback form that is asked to be completed by teachers for each child for every five to six sessions. It aims to follow improvements in the relationship through the intervention process.

**Procedure**

Before started, the head and all of the participant teachers of the school were briefly informed about the aim, the duration and the process of the study by the researcher. Then, the parents and the children were informed about the study after getting official permissions. The researcher was introduced to children via classroom teacher with whom they were going to interview individually. All of the participant children either they were in experimental or control group were interviewed simultaneously using SPI to prevent the potential biases. After student interviews, all of the participant teachers were asked to complete STRS to report their relationship perceptions with each student in their classes. After the pretests completed, teachers in the experimental group were trained by the researcher about systems approach, attachment theory, the powerful impact of positive child–teacher relationships on socio-emotional development of children and Banking Time intervention. The 10 h of five-training sessions was completed in 5 days. The sessions included: researcher-led interactive presentations, discussions, role playing and teacher feedbacks. At the end of the training period, teachers were asked to reflect principles and techniques of intervention into their relationships with each child during BT sessions. Teachers conducted 10-min sessions twice a week with every child in their classes. Experimental group teachers conducted at least 22 sessions with each student, so that every child could have a chance to take the advantage of BT intervention equally. During this process, the researcher and teacher of every class met once a week to monitor and evaluate the sessions together based on activity schedule and feedback forms. After the intervention implementation ended, posttests were conducted using SSPI and STRS for teachers.



## Findings

### Quantitative findings regarding STRS scores of teachers and SSPI scores of preschooler children

To determine whether Banking Time had a significant effect on children's relationship perceptions in the experimental group, ANOVA for repeated measures was conducted. As shown in Table 1, the results revealed that interaction effect between pretest–posttest and experimental–control groups was significant in terms of questions 1 and 3 (Wilk's  $\Lambda = 0.945$ ,  $F(1.91) = 5.334$ ,  $p < 0.05$ , Wilk's  $\Lambda = 0.931$ ,  $F(1.91) = 6.792$ ,  $p < 0.05$ , Wilk's  $\Lambda = 0.882$ ,  $F(1.91) = 12.153$ ,  $p < 0.01$ ). The main effect for pretest–posttests was found significant considering the questions 2, 7, and 8 (Wilk's  $\Lambda = 0.955$ ,  $F(1.91) = 4.313$ ,  $p < 0.05$ , Wilk's  $\Lambda = 0.956$ ,  $F(1.91) = 4.211$ ,  $p < 0.05$ , Wilk's  $\Lambda = 0.950$ ,  $F(1.91) = 4.743$ ,  $p < 0.05$ ). In sum, when the results of this analysis were examined in terms of the total score of Semi-Structured Play Interview, pretest–posttest scores of the experimental and control groups differed significantly. Specifically, relationship perceptions of experimental group children were significantly improved compared with those of control group children.

**Table 1 ANOVA for repeated measures based on pretest–posttest mean scores of experimental and control groups children for SPI**

	Wilk's $\Lambda$	<i>F</i>	<i>df</i>	<i>p</i>
SPI-1				
Pre–posttest	0.991	0.836	1.91	0.363
Pre–posttest $\times$ experimental–control	0.945	5.334*	1.91	0.023
SPI-2				
Pre–posttest	0.955	4.313*	1.91	0.041
Pre–posttest $\times$ experimental–control	0.988	1.115	1.91	0.294
SPI-3				
Pre–posttest	1.000	0.002	1.91	0.961
Pre–posttest $\times$ experimental–control	0.931	6.792*	1.91	0.011
SPI-4				
Pre–posttest	1.000	0.040	1.91	0.841
Pre–posttest $\times$ experimental–control	0.983	1.548	1.91	0.217
SPI-5				
Pre–posttest	1.000	0.001	1.91	0.978
Pre–posttest $\times$ experimental–control	0.976	2.240	1.91	0.138
SPI-6				
Pre–posttest	0.983	1.615	1.91	0.207
Pre–posttest $\times$ experimental–control	0.964	3.351	1.91	0.070
SPI-7				
Pre–posttest	0.956	4.211*	1.91	0.043
Pre–posttest $\times$ experimental–control	0.973	2.483	1.91	0.119
SPI-8				
Pre–posttest	0.950	4.743*	1.91	0.032
Pre–posttest $\times$ experimental–control	0.975	2.357	1.91	0.128
SPI-T				
Pre–posttest	0.963	3.487	1.91	0.065
Pre–posttest $\times$ experimental–control	0.882	2.153**	1.91	0.001

\*  $p < 0.05$ , \*\*  $p < 0.01$



Considering teacher's relationship perceptions, ANOVA for repeated measures was conducted to see if there would be a considerable difference between the two groups. As shown in Table 2, the pretests–posttests main effect was significant for all subscales (conflict, closeness and dependency) and the total score of Student–Teacher Relationship Scale (Wilk's  $\Lambda = 0.751$ ,  $F(1.91) = 30.144$ ,  $p < 0.01$ , Wilk's  $\Lambda = 0.796$ ,  $F(1.91) = 23.314$ ,  $p < 0.01$ , Wilk's  $\Lambda = 0.905$ ,  $F(1.91) = 9.548$ ,  $p < 0.01$ , Wilk's  $\Lambda = 0.648$ ,  $F(1.91) = 49.441$ ,  $p < 0.01$ ). The mean scores of the both groups (experimental and control) were improved in posttests more significantly than pretests, but there was no significant improvement considering the interaction effect for pretests–posttests. Banking Time intervention did not have a considerable effect on improving the relationship perceptions of teachers in experimental group compared to control group.

Gender was also tested within this study. Results indicated that there were no significant gender differences between experimental and control group children both regarding Semi-Structured Play Interview scores of children and Student–Teacher Relationship Scale scores of teachers. When we only consider gender of the experimental group of children, we also did not find any significant differences between the mean scores of boys and girls.

#### Qualitative findings regarding the effectiveness of Banking Time intervention

Banking Time feedback forms completed by teachers were also evaluated to reveal whether or not teachers found BT as a useful intervention to improve child–teacher relationships. Results showed that experimental group teachers identified BT as an effective program to improve interactions between children and teachers (see Fig. 1).

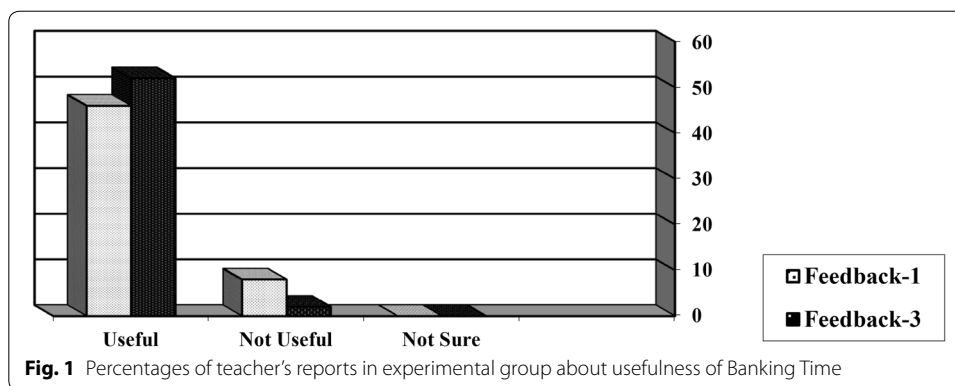
Those are below statements of experimental group teachers referring to what extent they perceived BT as useful. One of the 5-year-old group teacher said:

*“Yes, it's useful. Her self-expression is strong but she was not so close to me. These sessions improved our relationship. She is more close to me, talkative and full of love ever than before. At the beginning of the sessions, she was waiting for my guidance, she was a little bit inhibited but she feels more confident about herself. She decides and does what she wants to.”*

**Table 2 ANOVA for repeated measures based on pretest–posttest mean scores of experimental and control groups teachers for STRS**

	Wilk's $\Lambda$	$F$	df	$p$
STRS-conflict				
Pre–posttest	0.751	30.144**	1.91	0.000
Pre–posttest x experimental–control	0.989	1.044	1.91	0.310
STRS-closeness				
Pre–posttest	0.796	23.314**	1.91	0.000
Pre–posttest x experimental–control	0.992	0.776	1.91	0.381
STRS-dependency				
Pre–posttest	0.905	9.548**	1.91	0.003
Pre–posttest x experimental–control	0.985	1.397	1.91	0.240
STRS-total				
Pre–posttest	0.648	49.441**	1.91	0.000
Pre–posttest x experimental–control	0.995	0.415	1.91	0.521

\*\*  $p < 0.01$



For her another student she said:

*"He appears warm but not so much. These sessions made possible to let him know I would be happy to spend time with him. Also he begins to be open in our relationship and more self-confident. One day he was looking for his other pair of shoes and told me he couldn't find it. I said I could help him. We started to look for it together and then we found it. He was patient and warmer than before. If it happened in the past, I could possibly say 'Look for carefully, you will find it'. This is more positive treatment on the behalf of student"*

Another teacher stated the usefulness of BT like below:

*"Yes, I think it's useful. Sometimes it could be hard for him to express himself in our relationship. It is easier now to do that for him because of the sessions. Our relationship is warmer and closer than before. One day he was the day of the student in the class to help me in distributing worksheets to his classmates. At first he was not willing to do that. Then I looked at his face and we came eye to eye. Suddenly he told that he could help them. We both feel comfortable with his behavior."*

To evaluate how children perceived relationships with their teachers during BT sessions, an additional question "What do you think about special sessions that you have done with your teacher?" was asked to experimental group children while interviewing with Semi-Structured Play Interview during data collection in the posttest period. The aim was to find out feelings of the children and their thoughts during sessions by probing.

The statements expressed by the experimental group children from different ages.

*Student 1: Drawing*

*Researcher: How do you feel?*

*Student 1: Very nice*

*Researcher: Why do you feel like that?*

*Student 1: Because I like sessions too much, we are drawing, playing with toys...*

*Researcher: So what makes you feel "very nice" in these sessions?*

*Student 1: Teacher can help us, she couldn't help during classroom activities, but she can help during the sessions.*

*Student 2: It is very good, because I play with the toys and I can spend my time with my teacher together*

*Researcher: How do you feel in these sessions?*

*Student 2: I feel very nice. I spend time with my teacher and I can see her easily.*

*Student 3: Good thing*

*Researcher: Why do you think it is a good thing?*

*Student 3: You can do whatever you want for 10 min*

*Researcher: Else?*

*Student 3: I am drawing, playing chess for example*

*Researcher: How do you feel in these sessions?*

*Student 3: Very good*

*Researcher: Why?*

*Student 3: Because I feel happy and classroom is quite and I am alone with my teacher*

*Researcher: Is it important to be alone with the teacher?*

*Student 3: Yes, I love my teacher too much.*

In summary, it was seen that both children and teachers identified BT intervention as a useful program. It was clear to see that specifically children were more benefited from BT sessions.

## Discussion

The main aim of the present study was to evaluate the effectiveness of Banking Time intervention in improving and enhancing relationships between children and teachers in preschool period. It was hypothesized that Banking Time would be an effective intervention to achieve this goal. It was clearly seen that Banking Time has improved the relationship perception of experimental group children rather than the control group. It is reasonable to say that the intervention can be used effectively to improve student–teacher relationships for promoting positive interactions. Similarly, in their case study, McIntosh et al. (2000) used Teacher–Child Interaction Therapy, a relationship-based program, focusing on child–teacher relationships. They found that children engaged in that program had more positive interactions and less maladaptive behaviors ever than before. Similarly, Denham and Burton (1996) reported that after a 32-week period which aimed to improve relationships and social skills of children, children showed significant improvements in those areas. Additionally, Anderson et al. (2004) stated that school commitment and academic success of children were improved based on a multidimensional intervention model called “Check & Connect” which emphasizes the importance of school, teacher and parent collaboration in enhancing close relationships. In the current study, teachers in the control group showed an improvement as much as the experimental group did. This may be because of some potential influences such as being in the same institution, completing STRS in the direction of desired answers, etc. Another possibility is that during the whole implementation process both groups of teachers were effortful to improve their relationships with their students to contribute well-being of children better. However, children in the control group did not indicate

such an improvement with their teachers. The critical point was the absence of intervention in the control group. This may well account for why the control group children did not report positive improvement in their perceptions of relationships formed with their teachers. The teachers in the control group may somehow have been affected by intervention implementation since they reported that they have changed their relationship perceptions. However, this was not reflected in their behaviors. For this reason, control group children did not perceive any improvement in their relationship patterns with their teachers. In a study by implementing Banking Time intervention, Driscoll and Pianta (2010) found that children were reported as having fewer problem behaviors, being more competent and task oriented by their teachers after intervention. However, in that study, findings were only based on teacher reports; no other measures were used to evaluate the effectiveness of intervention such as interviews or observations. The strength of the current study was to conduct interviews with children to reveal relationship perceptions of them with their teachers. Thus, the results indicated how Banking Time intervention was effective on relationship perceptions of the experimental group children.

Various studies examining the effects of student gender on child–teacher relationships indicated that girls have had more positive relationships than boys with their teachers contrary to the findings obtained in the current study (Birch and Ladd 1997, 1998; Kesner 2000; Murray and Murray 2004). The findings of no gender differences may be the result of small sample size. Large sample sizes might reveal potential gender differences.

Keeping academical functions rather than focusing on social and emotional processes may lead to damage in the functionality of children. It is obvious to see that social and academical functions are highly inter-related components regarding student–teacher relationships (Pianta 2003). It seems that it is essential to create “responsive classroom settings” in which cultural, social, emotional, psychological and academical needs of children should be considered by means of interventive and preventive programs in collaboration with practitioners and academicians (Elias et al. 2003; Elliott et al. 2003; Kratochwill and Shernoff 2004). Therefore, it has been strongly emphasized that strategies and programs based on that kind of collaboration should be put into practice (Pianta 1998, 2003; Domitrovich and Greenberg 2003; Lochman 2003; Lynn et al. 2003). To achieve this goal, it is also important to train preservice and inservice teachers as well as professionals working with children in school settings to have such an important viewpoint. Intervention programs in collaboration with schools, parents, civil society institutions and other official institutions would be effective in handling problems in specifically educational settings. As indicated by Anderson et al. (2004), multidimensional and multimodal interventions in collaboration with children, school staff and also parents would influence attachment to the school, and improve positive and supportive relationships.

In addition to multidimensional and collaborative approaches, prevention and intervention programs should be consistent and appropriate for the developmental needs of children to be effective. Specifically, at-risk children should be targeted to include these kinds of intensive intervention programs from the early period of their lives (see Weissberg et al. 2003; Noam and Hermann 2002; Lynn et al. 2003). However, such interventions should be used not only for the children who have relationship problems but also

for the rest of the children in the classroom. By this way, each student in the classroom could have an opportunity to be benefited from such an intervention for enhancing relationships. It would also be useful for prevention of potential problems that can appear in the future (Lynn et al. 2003; Pianta 1998). Individual level relationships consisting closeness and support are preferable for sustaining positive child–teacher relationships otherwise it would not be efficient trying to spread classroom level interventions specifically higher grades (Rucinski et al. 2017). Since there is dearth of studies using systematical programs to improve relationships between teachers and children specifically in preschool period, it is obvious that there is a need to do various researches specifically within different cultural contexts to put new interventions into practice and also to examine current ones to see possible effects (Anderson et al. 2004). It seems necessary to confirm how to enrich and increase effectiveness of current programs based on developmental theories to ensure the validity of those programs (Lochman 2003; Domitrovich and Greenberg 2003).

The case is similar in Turkish sample; although there is no systematical intervention study to improve relationships between preschoolers and teachers, some researchers evaluated the impact of different interventions. In one of the leading studies, Kagitcibasi, Sunar and Bekman conducted an intervention study called “Early Support Project” through a 10-year period between the years 1982 and 1992 to see if mother training has been effective on cognitive, social and personality development of children coming from low socioeconomic status as well as preschool education (see Kagitcibasi 2000). They found that specifically mother training was not only effective on the development of those areas but also it has improved the relationship pattern between children and their mothers. In a recent study with a Turkish sample, the researchers examined the effectiveness of PATHS intervention which focuses on building a supportive environment to develop self-regulation, emotion regulation, positive peer relationships and children’s social competence in general. As parallel to the findings of the current study, researchers found no significant differences between the PATHS intervention and control groups. However, intervention group children reported more positive relationships with their teachers (Greenberg et al. 2017). There are also other studies conducted to improve social skills of children with and without developmental delays (Ciftci and ve Sucuoğlu 2003; see Cetin et al. 2002). To examine short-time and long-time effectiveness of a well-known prevention/intervention program “Interpersonal Cognitive Problem Solving Skills (ICPS)” developed by Shure (2001), different studies have been conducted in Turkish sample and reported as an effective program to improve alternative problem solving skills of preschoolers (Dinçer and Güneysu 1997; Ogulmus 2001; Anliak 2004). This kind of preventive/intervention programs would be effective when they are integrated into the ongoing preschool curriculum.

In the current study, one of the rare systematical intervention programs, Banking Time, was used to evaluate its effectiveness to improve student–teacher relationships in the preschool period in a Turkish sample. The results showed that Banking Time was an effective intervention to improve relationship perception of children. Although it was found as an effective intervention, better results can be obtained if it would be integrated into the ongoing curriculum and implemented in a consistent manner by teachers. It is assumed that both teachers and professionals working with children in the school

settings would realize the importance of protective mental health issues more with an increasing use of such intervention studies. Additionally, child–teacher relationships enhanced by Banking Time intervention would be helpful to save positive experiences and to solve individual problems as well as potential problems in the classroom which, in turn, may also lead to promotion of social skills of children to create positive classroom climate in general.

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#### Authors' contributions

DSA collected, analyzed and interpreted the whole data reported in this paper. Also DSA was the only author in writing the manuscript. The author read and approved the final manuscript.

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#### Availability of data and materials

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#### References

- Ainsworth, M. D. S. (1969). Object relations, dependency and attachment: A theoretical review of the infant–mother relationship. *Child Development*, 40, 969–1025.
- Ainsworth, M. D. S. (1989). Attachments beyond infancy. *American Psychologist*, 44(4), 709–716.
- Ainsworth, M. D. S., & Bowlby, J. (1991). An ethological approach to personality development. *American Psychologist*, 46(4), 333–341.
- Akister, J. (1998). Attachment theory and systemic practice: Research update. *Journal of Family Therapy*, 20, 353–366.
- Anderson, A. R., Christenson, S. L., Sinclair, M. F., & Lehr, C. A. (2004). Check & connect: The importance of relationships for promoting engagement with school. *Journal of School Psychology*, 42, 95–113.
- Anlık, Ş. (2004). *Farklı eğitim yaklaşımları uygulayan okulöncesi eğitim kurumlarında kişiler arası bilişsel problem çözme becerisi programının etkisinin incelenmesi*. Ege Üniversitesi Sosyal Bilimler Enstitüsü: Yayınlanmamış doktora tezi.
- Birch, S. H., & Ladd, G. W. (1997). The teacher–child relationship and children's early school adjustment. *Journal of School Psychology*, 35(1), 61–79.
- Birch, S. H., & Ladd, G. W. (1998). Children's interpersonal behaviors and the teacher–child relationship. *Developmental Psychology*, 34(5), 934–946.
- Bowlby, J. (1973). *Attachment and loss: Separation, anxiety and anger*. New York: Basic Books.
- Cetin, A., Bilbay, A.A. ve Kaymak, D.A. (2002). *Araştırmadan uygulamaya çocuklarda sosyal beceriler grup eğitimi*. (2. baskı). İstanbul: Epsilon Yayıncılık.
- Ciftci, I., & ve Sucuoglu, B. (2003). *Bilişsel süreç yaklaşımıyla sosyal beceri öğretimi*. Ankara: Kök Yayıncılık.
- DeJames, P. L. (2001). Effective parent/teacher/child relationships. *Education*, 102(1), 34–36.
- Denham, S. A., & Burton, R. (1996). A socio-emotional intervention for at-risk 4-year-olds. *Journal of School Psychology*, 34(3), 225–245.
- Diğer, Ç., & Güneysu, S. (1997). Examining the effects of problem solving training on the acquisition of interpersonal problem solving skills by 5 years old children in Turkey. *International Journal of Early Years Education*, 5(1), 37–46.
- Domitrovich, C.E., & Greenberg, M. T. (2003). Preventive interventions that reduce aggression in young children. *Encyclopedia on Early Childhood Development* (online). 1–8. Retrieved May 23, 2005. <http://www.excelence-earlychildhood.ca/documents/Domitrovich-GreenbergANGxp.pdf>.
- Driscoll, K. C., & Pianta, R. C. (2010). Banking time in head start: Early efficacy of an intervention designed to promote supportive teacher–child relationships. *Early Education and Development*, 21(1), 38–64.
- Elias, M. J., Zins, J. E., Graczyk, P. A., & Weissberg, R. P. (2003). Implementation, sustainability, and scaling up of social-emotional and academic innovations in public schools. *School Psychology Review*, 32(3), 303–319.
- Elliott, S. N., Kratochwill, T. R., & Roach, A. T. (2003). Commentary: Implementing, social-emotional and academic innovations: reflections, reactions, and research. *School Psychology Review*, 32(3), 320–326.
- Ford, D. H., & Lerner, R. M. (1992). *Developmental systems theory: An integrative approach*. Newbury Park: Sage Publications.
- Goldberg, S. (2000). *Attachment and development*. London: Arnold Publishers.
- Greenberg, M., Domitrovich, C., Ocak Karabay, S., Tuncdemir, A., & Gest, S. (2017). Focusing on teacher–children relationship perception and children's social emotional behaviors—The PATHS preschool program. *International Journal of Educational Research Review*, 3(1), 8–20.

- Hagekull, B., & Hammarberg, A. (2004). The role of teachers' perceived control and children's characteristics in interactions between 6 years olds and their teachers. *Scandinavian Journal of Psychology*, 45, 301–312.
- Hinde, R. A. (1991). Relationships, attachment and culture: A tribute to John Bowlby. *Infant Mental Health Journal*, 12(3), 154–163.
- Honig, A.S. (1998). *Attachment and relationships: Beyond parenting*. In Paper presented at the head start quality network research satellite conference (East Lansing, MI, August 20, 1998). ED 423 043.
- Hortaçsu, N. (2003). *Çocuklukta ilişkiler, ana baba, kardeş ve arkadaşlar*. İmge Kitabevi: Ankara.
- Howes, C., & Hamilton, C. E. (1992). Children's relationships with caregivers: Mothers and child care teachers. *Child Development*, 63, 859–866.
- Howes, C., Matheson, C. C., & Hamilton, C. E. (1994). Maternal, teacher and child care history correlates of children's relationships with peers. *Child Development*, 65, 264–272.
- Howes, C., Rodning, C., Galluzzo, D., & Myers, L. (1988). Attachment and child care: Relationships with mother and caregiver. *Early Childhood Research Quarterly*, 3, 403–416.
- Howes, C., Shivers, E. M., & Ritchie, S. (2004). Improving social relationships in child care through a researcher–program partnership. *Early Education and Development*, 15(1), 57–78.
- Kagitcibasi, C. (2000). *Kültürel psikoloji*. Evrim Yayınevi: İstanbul.
- Kesner, J. E. (2000). Teacher characteristics and the quality of child–teacher relationships. *Journal of School Psychology*, 28(2), 133–149.
- Kim, J. M., & Mahoney, G. (2005). The effects of relationship focused intervention on Korean parents and their young children with disabilities. *Research in Developmental Disabilities*, 26(2), 117–130.
- Kratochwill, T. R., & Shernoff, E. (2004). Research to practice: The role of practitioners in evidence-based interventions. *School Psychology Review*, 33(1), 34–48.
- Lochman, J. E. (2003). Programs and services effective in reducing aggression in young children. *Encyclopedia on early childhood development* (online) 1–6. Retrieved May 23, 2005. <http://www.excelence-earlychildhood.ca/documents/LochmanANGxp.pdf>.
- Lynn, C. J., McKay, M. M., & Atkins, M. S. (2003). School social work: Meeting the mental health needs of students through collaboration with teachers. *Children & Schools*, 25(4), 197–209.
- McIntosh, D. E., Rizza, M. G., & Bliss, L. (2000). Implementing empirically supported interventions: Teacher-child interaction therapy. *Psychology in the Schools*, 37(5), 453–462.
- Miller, A. L., McDonough, S. C., Rosenblum, K. L., & Sameroff, A. J. (2002). Emotion regulation in context: Situational effects on infant and caregiver behavior. *Infancy*, 3(4), 403–433.
- Murray, C., & Murray, K. M. (2004). Child level correlates of teacher–student relationships: An examination of demographic characteristics, academic orientations and behavioral orientations. *Psychology in the Schools*, 41(7), 751–762.
- Noam, G. G., & Hermann, C. A. (2002). Where education and mental health meet: Developmental prevention and early intervention in schools. *Development and Psychopathology*, 14, 861–875.
- Ogulmus, S. (2001). *Kişiler arası sorun çözme becerileri ve eğitimi*. İstanbul: Nobel Yayın Dağıtım.
- Pianta, R. C. (1997). Adult–child relationship processes and early schooling. *Early Education and Development*, 8, 137–152.
- Pianta, R. C. (1998). *Enhancing relationships between children and teachers*. Washington, DC: American Psychological Association.
- Pianta, R. C. (2001). *Students, teachers, and relationship support: Professional manual*. Lutz: Psychological Assessment Resources Inc.
- Pianta, R. C. (2003). Commentary: Implementation, sustainability, and scaling up in school contexts: Can school psychology make the shift? *School Psychology Review*, 32(3), 331–335.
- Pianta, R. C., & Hamre, B. K. (2001a). *Students, teachers, and relationship support: Consultant's manual*. Lutz: Psychological Assessment Resources Inc.
- Pianta, R. C., & Hamre, B. K. (2001b). *Students, teachers, and relationship support: Banking time basics for teachers*. Lutz: Psychological Assessment Resources Inc.
- Pianta, R. C., & Hamre, B. K. (2001c). *Students, teachers, and relationship support: Consultant's workbook*. Lutz: Psychological Assessment Resources Inc.
- Pianta, R. C., & Nimetz, S. L. (1991). Relationships between children and teachers: Associations with classroom and home behavior. *Journal of Applied Developmental Psychology*, 12, 379–393.
- Rucinski, C. L., Brown, J. L., & Downer, J. T. (2017). Teacher–child relationships, classroom climate, and children's social-emotional and academic development. *Journal of Educational Psychology*. <https://doi.org/10.1037/edu0000240>. (Advance online publication).
- Sabol, T. J., & Pianta, R. C. (2012). Recent trends in research on teacher–child relationships. *Attachment & Human Development*, 14(3), 213–231.
- Sameroff, A., & McDonough, S. C. (1994). Educational implications of developmental transitions. *Phi Delta Kappan*, 76(3), 188–193.
- Shure, M. B. (2001). *I can problem solve (An interpersonal cognitive problem-solving program) (ICPS)* (2nd ed.). Illinois: Research Press.
- Sroufe, L. A. (2000). Early relationships and the development of children. *Infant Mental Health Journal*, 21, 67–74.
- Stevenson-Hinde, J. (1990). Attachment within family systems: An overview. *Infant Mental Health Journal*, 11(3), 218–227.
- Weissberg, R. P., Kumpfer, K. L., & Seligman, M. E. P. (2003). Prevention that works for children and youth: An introduction. *American Psychologist*, 58(6/7), 425–432.

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